

Region 4 Culvert Liners



I-70; Gooseberry to Spring Canyon

- Pavement Rehab Job
- Cold-in-Place Recycle with 4" Overlay
- Replace 60,000 feet Guardrail
- Reset 50,000 feet Median Barrier

Visual Culvert Inspection

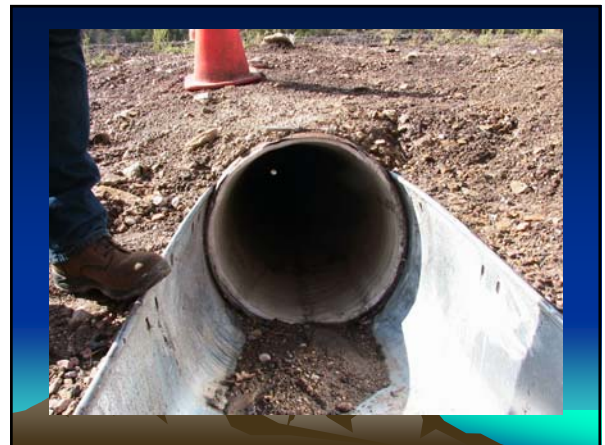
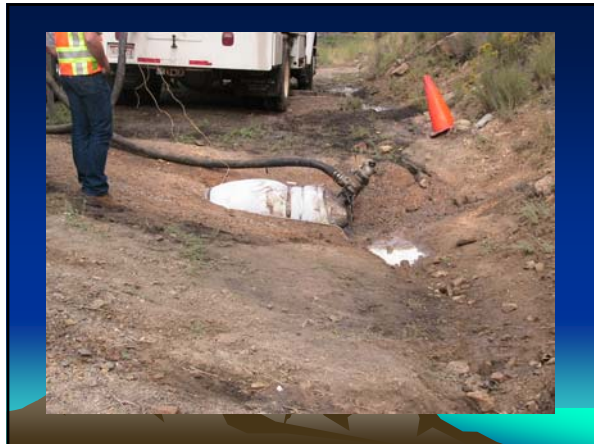


Rehab Culverts

- Rehab with Cured-in-Place Pipe Liner (CIPP)
- Some Broken Back Culverts
- Minimize Traffic Impacts
- CIPP Provides Full Structural Strength
- CIPP Maintains Flow Capacity
- CIPP Adds 50 to 100 years to life of the Culvert

Pipe Rehab Summary

- Thirteen 24 inch culverts (2,152 feet)
- Seven 30 inch culverts (1,316 feet)
- Total Cost for Pipe Rehab \$630,000.
- 4.4% of Total Project Bid Amount.



US-6; White River to MP 218

- Full Reconstruct and Realignment
- Replace all existing culverts
- Some culverts were too deep to replace

Slip Line 72" Arch Culvert



Slip Line 72" Culvert

- Existing Culvert Needed to Be Extended on Both Sides.
- Culvert Was Collapsing at Various Locations.
- Slip Lining Chosen as Preferred Rehab Method.



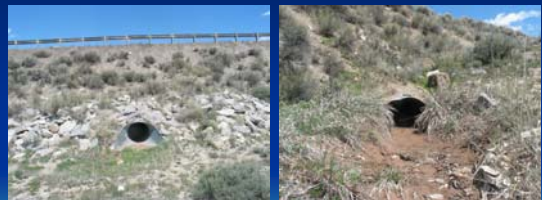
Slip Liner Issues

- Major Installation Problems
- Took Six Weeks to Complete Installation
- Grout Was too Liquid and Caused Liner to Float and Bend
- Good Price at \$40,000 for 261 feet of 54" Liner.

Cured-in-Place Liners

- Two 36" pipes buried too deep to replace.
- Added Extensions and Lined Entire Length of Pipe

Two 36" Culverts



CIPP Liner Issues

- Extensive Work Required to Clean Culverts
- Lots of Area Required for Equipment
- Very Expensive (\$185,000 for 632 feet of Culvert)



CIPP Benefits

- Very Good Finished Product
- Effective Pipe Length Has No Joints
- Adds 50 to 100 Years to Life of Culvert
- Minimal Traffic Impact